THE LANCET
Global Health

Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

Supplement to: Bassat Q, Watkins K, Peterson S, et al. The first Global Pneumonia Forum: recommendations in the time of coronavirus. *Lancet Glob Health* 2020; **8:** e762–63.

Panel: Recommendations and proposed activities issued as part of the consensus declaration and examples of activities set in motion after the meeting

#	Recommendation	Proposed activities	Examples of actions taken as a result of the Forum
1	**Develop and implement Pneumonia Control Strategies**	• National governments should develop and implement their own strategy to end pneumonia deaths, as part of wider child survival strategies and plans to strengthen primary health care and achieve universal health coverage • Annual targets for reductions in child pneumonia mortality should include clear coverage goals for prevention, diagnostic and treatment services, which must be delivered at household, community and hospital levels, including as part of the integrated management of childhood illnesses and of community case management • Pneumonia control efforts must be multisectoral, engaging the sectors of nutrition; air quality; social welfare; water, sanitation and hygiene; and education	• Nigerian Minister of State of Health, Adeleke Olorunnimbe Mamora, launched the world's first Pneumonia Control Strategy during the Global Forum. This pioneering declaration was of particular importance given that Nigeria has more child pneumonia deaths than any other country, including India, and progress is very slow in reducing these deaths. In this respect, Nigerian leadership on pneumonia is critical and will be closely observed by many African nations, who face similar challenges. We applaud Nigeria for their leadership in pneumonia control.

2	**Prioritise vulnerable populations**	• Governments must identify the children being left behind. Efforts should concentrate on reducing their exposure to poverty, malnutrition, air pollution and conflict, and on increasing their access to good-quality local health services, close to home. • As two out of every three child pneumonia deaths now occurs in a fragile setting, humanitarian agencies and their partners must play their part to ensure that pneumonia prevention, diagnosis and treatment are part of the support they provide to children. • As the burden of care for children with pneumonia falls disproportionately on women – in families and in healthcare settings – efforts to improve women's education, agency, skills and resources will help save children's lives and buffer families from the economic shocks of pneumonia and other life-threatening diseases.	•
3	**Finance pneumonia control and treatment adequately**	• Governments must guarantee adequate domestic health spending. Given that out-of-pocket costs are a major barrier to care-seeking for children with pneumonia or other deadly diseases, the removal of user fees for these health services is critical. • A minimum target must be that at least 90% of children with suspected pneumonia visit good-quality healthcare services and can access vaccines, diagnostic tools, antibiotics, and oxygen, as necessary. • Development assistance should increase where domestic resources and universal health coverage efforts alone cannot cover the costs. • International partners must collaborate effectively to increase access to good-quality preventive and curative health services, including availability of pneumonia-fighting vaccines, antibiotics and oxygen and increase the affordability of vaccines.	• The meeting highlighted that of $US105.7 billion international development assistance allocated to HIV/AIDS, malaria and pneumonia[1], only 6% was for pneumonia. Health aid must be increased and aligned with domestic priorities. • Indonesia's Minister of National Development Planning, Suharso Monoarfa announced the introductiono of the pneumococcal conjugate vaccine, using the Advanced Market Commitment (AMC) • A new and much cheaper ($US2 per dose) pneumococcal conjugate vaccine, the PNEUMOSIL® vaccine from the Serum Institute of India, was announced. At these lower costs, many more children in low- and middle-income countries will be vaccinated.

4	**Accelerate breakthrough innovations**	• Governments and international development partners must work together to end the insufficient level of investment in pneumonia-related research and development, targeting breakthroughs in the areas where cost-effective technologies and systems increase efficiencies and prevent the most pneumonia deaths. • There is an urgent need for vaccines targeting the leading viral causes of pneumonia as well as simple, affordable tools to help healthcare workers diagnose pneumonia, which will contribute to the more responsible use of antibiotics and reduce antimicrobial resistance. • New tools are also needed to reduce the major risk factors for pneumonia: malnutrition, exposure to air pollution and preterm birth/low birthweight. • The very low proportion of infectious disease research spending allocated to pneumonia (3%)[2] must be increased.	The meeting highlighted a variety of breakthrough innovations including: • **Progress on Respiratory Syncytial Virus (RSV) vaccines**: The RSV vaccine targets the leading viral form of pneumonia, estimated to cause up to 30% of all severe child pneumonia cases. Such a vaccine could have a huge impact in terms of saving lives among the youngest kids. • **Use of Lung ultrasound for a rapid, safe and effective point of care diagnosis of pneumonia**: Lung ultrasound could really improve pneumonia diagnosis, and contribute to solving one of the current greatest challenge in the pneumonia control chain. • **Biomarkers to predict pneumonia prognosis**: A simple, easy-to-use tool that could predict with great accuracy whether a child is likely to die from pneumonia in the next 48 hours would be extremely useful to prioritize management and resources • **Non-electricity dependent medical oxygen systems**: Oxygen production and storage, both for in-hospital treatment and emergency transport remains inadequate, and new systems that can function in resource-constrained settings are urgently required. • **Local disease burden maps**. Current technologies allow the production of maps that can accurately pinpoint clusters of child deaths at very low administrative levels. Governments and Ministries of health should benefit of such intelligence to target scarce resources to the children who need them the most. These maps hold much promise for a “precision public health” approach to child survival. Additionally, important announcements were made: • Unitaid announced a $US43 million investment in better diagnostic tools across nine countries in close collaboration with PATH and ALIMA

5	**Track progress with transparency, accountability and inclusiveness**	• To measure progress towards the pneumonia control target established in the GAPPD, it is vital that governments have easy access to good-quality and timely data that measure the numbers and rates of child pneumonia cases, deaths, major risk factors, care-seeking behaviour, quality of care and healthcare service coverage at national and sub-national levels. • Governments should report national progress on child mortality, including on the pneumonia target, and global progress should be analysed and published annually.	
6	**Strengthen partnerships**	• The tragedy of child pneumonia can only be successfully tackled with coordinated actions at all levels. Governments must ensure that all relevant ministries and agencies are engaged in pneumonia control efforts and help mobilise local coalitions from the public and private sectors to drive progress. • Government donor agencies, UN and multilateral health agencies, NGOs, companies and foundations engaged in infectious disease control, immunisation, and maternal, newborn and child health must align more closely with the nutrition, air quality, anti-tobacco and education actors to better coordinate regional and international efforts.	• The Spanish government signaled an increased support for international development, and the continuation of its support to Gavi • Very strong attendance to the meeting from more than 20 governments, a very promising sign

References

1. Development Initiatives analysis based on OECD Common Reporting Standards (CRS), 2020.
2. Brown RJ; Head MG. Research Investments in Global Health (ResIn) Study, Sizing Up Pneumonia Research: Assessing global investments in pneumonia research 2000–2015 (accessed at https://doi.org/10.6084/m9.figshare.6143060.v1; on 14.02.2020). 2018.